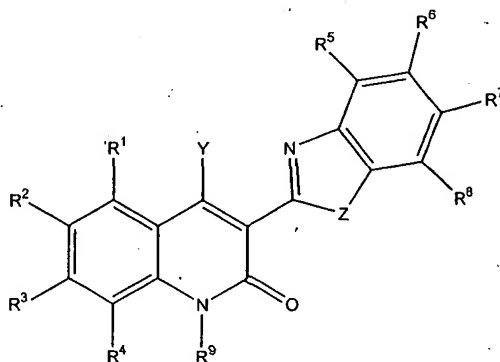


CLAIMS

What is claimed is:

- 1 1. A compound having the structure I, a tautomer of the
- 2 compound, a pharmaceutically acceptable salt of the compound, or a
- 3 pharmaceutically acceptable salt of the tautomer



I

wherein,

Y is selected from the group consisting of $-OR^{10}$ groups, $-C(=O)-R^{11}$ groups, $-NR^{12}R^{13}$ groups, substituted and unsubstituted alkynyl groups, substituted and unsubstituted heterocyclylalkyl groups, substituted and unsubstituted alkylaminoalkyl groups, substituted and unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted arylaminoalkyl groups, substituted and unsubstituted diarylaminoalkyl groups, substituted and unsubstituted (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and unsubstituted saturated heterocyclyl groups, substituted and unsubstituted heterocyclyloxyalkyl groups, substituted and unsubstituted hydroxyalkyl groups, and substituted and unsubstituted aryloxyalkyl groups;

19 Z is selected from the group consisting of O, S, and NR^{14} groups;

20 R^1 , R^2 , R^3 , and R^4 may be the same or different and are
21 independently selected from the group consisting of H, Cl, Br, F, I,
22 -CN, -NO₂, -OH, -OR¹⁵ groups, -NR¹⁶R¹⁷ groups, substituted and
23 unsubstituted amidinyl groups, substituted and unsubstituted
24 guanidinyl groups, substituted and unsubstituted primary, secondary,
25 and tertiary alkyl groups, substituted and unsubstituted aryl groups,
26 substituted and unsubstituted alkenyl groups, substituted and
27 unsubstituted alkynyl groups, substituted and unsubstituted
28 heterocyclyl groups, substituted and unsubstituted aminoalkyl groups,
29 substituted and unsubstituted alkylaminoalkyl groups, substituted and
30 unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted
31 arylaminoalkyl groups, substituted and unsubstituted
32 diarylaminoalkyl groups, substituted and unsubstituted
33 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
34 heterocyclylalkyl groups, substituted and unsubstituted
35 diheterocyclylaminoalkyl groups, substituted and unsubstituted
36 (heterocyclyl)(alkyl)aminoalkyl groups, substituted and unsubstituted
37 (heterocyclyl)(aryl)aminoalkyl groups, and -C(=O)R¹⁸ groups;

38 R^5 , R^6 , R^7 , and R^8 may be the same or different and are
39 independently selected from the group consisting of H, Cl, Br, F, I,
40 -NO₂, -OH, -OR¹⁹ groups, -NR²⁰R²¹ groups, -SH, -SR²² groups,
41 -S(=O)R²³ groups, -S(=O)₂R²⁴ groups, -CN, substituted and
42 unsubstituted amidinyl groups, substituted and unsubstituted
43 guanidinyl groups, substituted and unsubstituted primary, secondary,
44 and tertiary alkyl groups, substituted and unsubstituted aryl groups,
45 substituted and unsubstituted alkenyl groups, substituted and
46 unsubstituted alkynyl groups, substituted and unsubstituted
47 heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl

48 groups, $-C(=O)R^{25}$ groups, substituted and unsubstituted aminoalkyl
49 groups, substituted and unsubstituted alkylaminoalkyl groups,
50 substituted and unsubstituted dialkylaminoalkyl groups, substituted
51 and unsubstituted arylaminoalkyl groups, substituted and
52 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
53 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
54 heterocyclaminoalkyl groups, substituted and unsubstituted
55 diheterocyclaminoalkyl groups, substituted and unsubstituted
56 (heterocycl)(alkyl)aminoalkyl groups, substituted and unsubstituted
57 (heterocycl)(aryl)aminoalkyl groups, substituted and unsubstituted
58 hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl
59 groups, substituted and unsubstituted aryloxyalkyl groups, and
60 substituted and unsubstituted heterocycloxyalkyl groups;

61 R^9 and R^{14} may be the same or different and are independently
62 selected from the group consisting of H, -OH, substituted and
63 unsubstituted alkoxy groups, substituted and unsubstituted aryloxy
64 groups, $-NH_2$, substituted and unsubstituted alkylamino groups,
65 substituted and unsubstituted arylamino groups, substituted and
66 unsubstituted dialkylamino groups, substituted and unsubstituted
67 diarylamino groups, substituted and unsubstituted (alkyl)(aryl)amino
68 groups, substituted and unsubstituted alkyl groups, substituted and
69 unsubstituted aryl groups, $-C(=O)H$, $-C(=O)$ -alkyl groups, and
70 $-C(=O)$ -aryl groups;

71 R^{10} is selected from the group consisting of substituted and
72 unsubstituted aryl groups, substituted and unsubstituted heterocycl
73 groups, $-C(=O)H$, $-C(=O)$ -alkyl groups, $-C(=O)$ -aryl groups,
74 $-C(=O)O$ -alkyl groups, $-C(=O)O$ -aryl groups, $-C(=O)NH_2$,
75 $-C(=O)NH$ (alkyl) groups, $-C(=O)NH$ (aryl) groups,
76 $-C(=O)N$ (alkyl)₂ groups, $-C(=O)N$ (aryl)₂ groups,

77 -C(=O)N(alkyl)(aryl) groups, -NH₂, -NH(alkyl) groups, -NH(aryl)
78 groups, -N(alkyl)₂ groups, -N(alkyl)(aryl) groups, -N(aryl)₂ groups,
79 -NH(heterocyclyl) groups, -N(heterocyclyl)₂ groups,
80 -N(alkyl)(heterocyclyl) groups, -N(aryl)(heterocyclyl),
81 -C(=O)NH(heterocyclyl) groups, -C(=O)N(heterocyclyl)₂ groups,-
82 -C(=O)N(alkyl)(heterocyclyl) groups, -C(=O)N(aryl)(heterocyclyl)
83 groups, and substituted and unsubstituted heterocyclylalkyl groups;

84 R¹¹ is selected from the group consisting of H, -NH₂, -NH(alkyl)
85 groups, -NH(aryl) groups, -N(alkyl)₂ groups, -N(aryl)₂ groups,
86 -N(alkyl)(aryl) groups, -NH(heterocyclyl) groups, -N(heterocyclyl)₂
87 groups, -N(alkyl)(heterocyclyl) groups, -N(aryl)(heterocyclyl)
88 groups, -O-alkyl groups, O-aryl groups, heterocycliloxyalkyl
89 groups, and substituted and unsubstituted aryl groups;

90 R¹² is selected from the group consisting of H, substituted and
91 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
92 and substituted and unsubstituted heterocyclyl groups;

93 R¹³ is selected from the group consisting of substituted and
94 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
95 substituted and unsubstituted heterocyclyl groups, -OH, alkoxy
96 groups, aryloxy groups, -NH₂, substituted and unsubstituted
97 heterocyclylalkyl groups, substituted and unsubstituted aminoalkyl
98 groups, substituted and unsubstituted alkylaminoalkyl groups,
99 substituted and unsubstituted dialkylaminoalkyl groups, substituted
100 and unsubstituted arylaminoalkyl groups, substituted and
101 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
102 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
103 alkylamino groups, substituted and unsubstituted arylamino groups,
104 substituted and unsubstituted dialkylamino groups, substituted and

105 unsubstituted diarylamino groups, substituted and unsubstituted
106 (alkyl)(aryl)amino groups, -C(=O)H, -C(=O)-alkyl groups,
107 -C(=O)-aryl groups, -C(=O)O-alkyl groups, -C(=O)O-aryl groups,
108 -C(=O)NH₂, -C(=O)NH(alkyl) groups, -C(=O)NH(aryl) groups,
109 -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂ groups,
110 -C(=O)N(alkyl)(aryl) groups, -C(=O)-heterocyclyl groups,
111 -C(=O)-O-heterocyclyl groups, -C(=O)NH(heterocyclyl) groups,
112 -C(=O)-N(heterocyclyl)₂ groups, -C(=O)N(aryl)(heterocyclyl)
113 groups, substituted and unsubstituted heterocyclylaminoalkyl groups,
114 substituted and unsubstituted hydroxyalkyl groups, substituted and
115 unsubstituted alkoxyalkyl groups, substituted and unsubstituted
116 aryloxyalkyl groups, substituted and unsubstituted
117 heterocycliloxyalkyl groups, and -C(=O)-N(alkyl)(heterocyclyl)
118 groups;

119 R¹⁵ and R¹⁹ may be the same or different and are independently
120 selected from the group consisting of substituted and unsubstituted
121 alkyl groups, substituted and unsubstituted aryl groups, substituted
122 and unsubstituted heterocyclyl groups, substituted and unsubstituted
123 heterocyclylalkyl groups, -C(=O)H, -C(=O)-alkyl groups,
124 -C(=O)-aryl groups, -C(=O)NH₂, -C(=O)NH(alkyl) groups,
125 -C(=O)NH(aryl) groups, -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂
126 groups, -C(=O)N(alkyl)(aryl) groups, -NH(heterocyclyl) groups,
127 -N(heterocyclyl)₂ groups, -N(alkyl)(heterocyclyl) groups,
128 -N(aryl)(heterocyclyl) groups, substituted and unsubstituted
129 aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl
130 groups, substituted and unsubstituted dialkylaminoalkyl groups,
131 substituted and unsubstituted arylaminoalkyl groups, substituted and
132 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
133 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
134 heterocyclylaminoalkyl, substituted and unsubstituted

- 135 diheterocyclylaminoalkyl, substituted and unsubstituted
136 (heterocyclyl)(alkyl)aminoalkyl, substituted and unsubstituted
137 (heterocyclyl)(aryl)aminoalkyl, substituted and unsubstituted
138 alkoxyalkyl groups, substituted and unsubstituted hydroxyalkyl
139 groups, substituted and unsubstituted aryloxyalkyl groups, and
140 substituted and unsubstituted heterocycloxyalkyl groups;
- 141 R^{16} and R^{20} may be the same or different and are independently
142 selected from the group consisting of H, substituted and unsubstituted
143 alkyl groups, substituted and unsubstituted aryl groups, and
144 substituted and unsubstituted heterocyclyl groups;
- 145 R^{17} and R^{21} may be the same or different and are independently
146 selected from the group consisting of H, substituted and unsubstituted
147 alkyl groups, substituted and unsubstituted aryl groups, substituted
148 and unsubstituted heterocyclyl groups, $-C(=O)H$, $-C(=O)$ -alkyl
149 groups, $-C(=O)$ -aryl groups, $-C(=O)NH_2$, $-C(=O)NH(alkyl)$
150 groups, $-C(=O)NH(aryl)$ groups, $-C(=O)N(alkyl)_2$ groups,
151 $-C(=O)N(aryl)_2$ groups, $-C(=O)N(alkyl)(aryl)$ groups,
152 $-C(=O)O$ -alkyl groups, $-C(=O)O$ -aryl groups, substituted and
153 unsubstituted heterocyclylalkyl groups, substituted and unsubstituted
154 aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl
155 groups, substituted and unsubstituted dialkylaminoalkyl groups,
156 substituted and unsubstituted arylaminoalkyl groups, substituted and
157 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
158 (alkyl)(aryl)aminoalkyl groups, $-C(=O)$ -heterocyclyl groups,
159 $-C(=O)O$ -heterocyclyl groups, $-C(=O)NH(heterocyclyl)$ groups,
160 $-C(=O)N(heterocyclyl)_2$ groups, $-C(=O)N(aryl)(heterocyclyl)$
161 groups, substituted and unsubstituted heterocyclylaminoalkyl groups,
162 substituted and unsubstituted diheterocyclylaminoalkyl groups,
163 substituted and unsubstituted (heterocyclyl)(alkyl)aminoalkyl groups,

164 substituted and unsubstituted (heterocyclyl)(aryl)aminoalkyl groups,
165 substituted and unsubstituted hydroxyalkyl groups, substituted and
166 unsubstituted alkoxyalkyl groups, substituted and unsubstituted
167 aryloxyalkyl groups, substituted and unsubstituted
168 heterocyclyloxyalkyl groups, and $-C(=O)-N(\text{alkyl})(\text{heterocyclyl})$
169 groups;

170 R^{18} , R^{23} , R^{24} , and R^{25} may be the same or different and are
171 independently selected from the group consisting of H, $-NH_2$,
172 $-NH(\text{alkyl})$ groups, $-NH(\text{aryl})$ groups, $-N(\text{alkyl})_2$ groups, $-N(\text{aryl})_2$
173 groups, $-N(\text{alkyl})(\text{aryl})$ groups, $-NH(\text{heterocyclyl})$ groups,
174 $-N(\text{heterocyclyl})(\text{alkyl})$ groups, $-N(\text{heterocyclyl})(\text{aryl})$ groups,
175 $-N(\text{heterocyclyl})_2$ groups, substituted and unsubstituted alkyl groups,
176 substituted and unsubstituted aryl groups, $-OH$, substituted and
177 unsubstituted alkoxy groups, substituted and unsubstituted
178 heterocyclyl groups, substituted and unsubstituted aryloxy groups,
179 heterocyclyloxy groups, $-NHOH$, $-N(\text{alkyl})OH$ groups, $-N(\text{aryl})OH$
180 groups, $-N(\text{alkyl})O\text{-alkyl}$ groups, $-N(\text{aryl})O\text{-alkyl}$ groups,
181 $-N(\text{alkyl})O\text{-aryl}$ groups, and $-N(\text{aryl})O\text{-aryl}$ groups; and

182 R^{22} is selected from the group consisting of substituted and
183 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
184 and substituted and unsubstituted heterocyclyl groups.

1 2. The compound according to claim 1, wherein Y is selected
2 from the group consisting of $-OR^{10}$ groups, $-NR^{12}R^{13}$ groups, and substituted and
3 unsubstituted alkynyl groups.

1 3. The compound according to claim 1, wherein Z is an $-NR^{14}$
2 group.

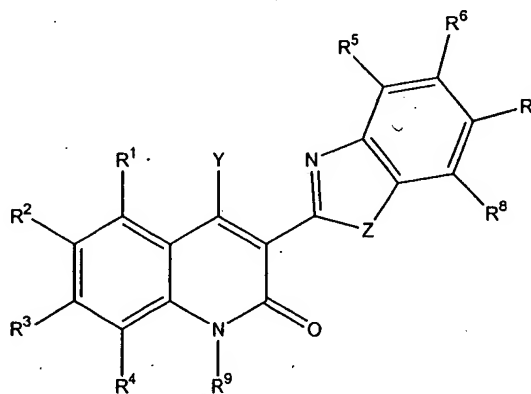
1 4. The compound according to claim 1, wherein R^1 is selected
2 from the group consisting of -H, substituted and unsubstituted alkoxy groups,
3 substituted and unsubstituted heterocyclalkoxy groups, substituted and
4 unsubstituted heterocycloxy groups, and substituted and unsubstituted heterocycl
5 groups.

1 5. The compound according to claim 1, wherein R^2 is selected
2 from the group consisting of H, F, Cl, $-NO_2$, substituted and unsubstituted
3 heterocyclalkoxy groups, and substituted and unsubstituted heterocycl groups.

1 6. The compound according to claim 1, wherein R^6 or R^7 is an
2 alkyl group.

1 7. The compound according to claim 1, wherein R^6 or R^7 is an
2 $-OR^{19}$ group and R^{19} is an alkyl group, an aryl group, a heterocycl group, or a
3 heterocyclalkyl group.

1 8. A compound having the structure I, a tautomer of the
2 compound, a pharmaceutically acceptable salt of the compound, or a
3 pharmaceutically acceptable salt of the tautomer



I

4
5 wherein,

Y is selected from the group consisting of $-OR^{10}$ groups, $-C(=O)-R^{11}$ groups, $-NR^{12}R^{13}$ groups, substituted and unsubstituted alkynyl groups, substituted and unsubstituted heterocyclalkyl groups, substituted and unsubstituted alkylaminoalkyl groups, substituted and unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted arylaminoalkyl groups, substituted and unsubstituted diarylaminoalkyl groups, substituted and unsubstituted (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted heterocyclaminoalkyl groups, substituted and unsubstituted saturated heterocycl groups, substituted and unsubstituted heterocycloxyalkyl groups, substituted and unsubstituted hydroxyalkyl groups, and substituted and unsubstituted aryloxyalkyl groups;

Z is selected from the group consisting of O, S, and NR^{14} groups;

R^1 , R^2 , R^3 , and R^4 may be the same or different and are independently selected from the group consisting of H, Cl, Br, F, I, $-CN$, $-NO_2$, $-OH$, $-OR^{15}$ groups, $-NR^{16}R^{17}$ groups, substituted and unsubstituted amidinyl groups, substituted and unsubstituted guanidinyl groups, substituted and unsubstituted primary, secondary, and tertiary alkyl groups, substituted and unsubstituted aryl groups, substituted and unsubstituted alkenyl groups, substituted and unsubstituted alkynyl groups, substituted and unsubstituted heterocycl groups, substituted and unsubstituted aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl groups, substituted and unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted arylaminoalkyl groups, substituted and unsubstituted diarylaminoalkyl groups, substituted and unsubstituted (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted heterocyclalkyl groups, and $-C(=O)R^{18}$ groups;

35 R^5 , R^6 , R^7 , and R^8 may be the same or different and are
 36 independently selected from the group consisting of H, Cl, Br, F, I,
 37 $-NO_2$, $-OH$, $-OR^{19}$ groups, $-NR^{20}R^{21}$ groups, $-SH$, $-SR^{22}$ groups,
 38 $-S(=O)R^{23}$ groups, $-S(=O)_2R^{24}$ groups, $-CN$, substituted and
 39 unsubstituted amidinyl groups, substituted and unsubstituted
 40 guanidinyl groups, substituted and unsubstituted primary, secondary,
 41 and tertiary alkyl groups, substituted and unsubstituted aryl groups,
 42 substituted and unsubstituted alkenyl groups, substituted and
 43 unsubstituted alkynyl groups, substituted and unsubstituted
 44 heterocyclyl groups, substituted and unsubstituted heterocyclylalkyl
 45 groups, $-C(=O)R^{25}$ groups, substituted and unsubstituted aminoalkyl
 46 groups, substituted and unsubstituted alkylaminoalkyl groups,
 47 substituted and unsubstituted dialkylaminoalkyl groups, substituted
 48 and unsubstituted arylaminoalkyl groups, substituted and
 49 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
 50 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
 51 heterocyclylaminoalkyl groups, substituted and unsubstituted
 52 hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl
 53 groups, substituted and unsubstituted aryloxyalkyl groups, and
 54 substituted and unsubstituted heterocycloxyalkyl groups;

55 R^9 is selected from the group consisting of $-OH$, substituted and
 56 unsubstituted alkoxy groups, substituted and unsubstituted aryloxy
 57 groups, $-NH_2$, substituted and unsubstituted alkylamino groups,
 58 substituted and unsubstituted arylamino groups, substituted and
 59 unsubstituted dialkylamino groups, substituted and unsubstituted
 60 diarylamino groups, substituted and unsubstituted (alkyl)(aryl)amino
 61 groups, substituted and unsubstituted alkyl groups, substituted and
 62 unsubstituted aryl groups, $-C(=O)H$, $-C(=O)$ -alkyl groups, and
 63 $-C(=O)$ -aryl groups;

64 R¹⁰ is selected from the group consisting of substituted and
65 unsubstituted aryl groups, substituted and unsubstituted heterocycl
66 groups, -C(=O)H, -C(=O)-alkyl groups, -C(=O)-aryl groups,
67 -C(=O)O-alkyl groups, -C(=O)O-aryl groups, -C(=O)NH₂,
68 -C(=O)NH(alkyl) groups, -C(=O)NH(aryl) groups,
69 -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂ groups,
70 -C(=O)N(alkyl)(aryl) groups, -NH₂, -NH(alkyl) groups, -NH(aryl)
71 groups, -N(alkyl)₂ groups, -N(alkyl)(aryl) groups, -N(aryl)₂ groups,
72 -C(=O)NH(heterocycl) groups, -C(=O)N(heterocycl)₂ groups,
73 -C(=O)N(alkyl)(heterocycl) groups, -C(=O)N(aryl)(heterocycl)
74 groups, and substituted and unsubstituted heterocyclalkyl groups;

75 R¹¹ is selected from the group consisting of H, -NH₂, -NH(alkyl)
76 groups, -NH(aryl) groups, -N(alkyl)₂ groups, -N(aryl)₂ groups,
77 -N(alkyl)(aryl) groups, -NH(heterocycl) groups, -N(heterocycl)₂
78 groups, -N(alkyl)(heterocycl) groups, -O-alkyl groups, O-aryl
79 groups, substituted and unsubstituted alkyl groups, and substituted
80 and unsubstituted aryl groups;

81 R¹² is selected from the group consisting of H, substituted and
82 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
83 and substituted and unsubstituted heterocycl groups;

84 R¹³ is selected from the group consisting of H, substituted and
85 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
86 substituted and unsubstituted heterocycl groups, -OH, alkoxy
87 groups, aryloxy groups, -NH₂, substituted and unsubstituted
88 alkylamino groups, substituted and unsubstituted arylamino groups,
89 substituted and unsubstituted dialkylamino groups, substituted and
90 unsubstituted diarylamino groups, substituted and unsubstituted
91 (alkyl)(aryl)amino groups, -C(=O)H, -C(=O)-alkyl groups,

92 -C(=O)-aryl groups, -C(=O)O-alkyl groups, -C(=O)O-aryl groups,
 93 -C(=O)NH₂, -C(=O)NH(alkyl) groups, -C(=O)NH(aryl) groups,
 94 -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂ groups,
 95 -C(=O)N(alkyl)(aryl) groups, substituted and unsubstituted
 96 heterocyclalkyl groups, substituted and unsubstituted aminoalkyl
 97 groups, substituted and unsubstituted alkylaminoalkyl groups,
 98 substituted and unsubstituted dialkylaminoalkyl groups, substituted
 99 and unsubstituted arylaminoalkyl groups, substituted and
 100 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
 101 (alkyl)(aryl)aminoalkyl groups, -C(=O)-heterocycl groups,
 102 -C(=O)-O-heterocycl groups, -C(=O)NH(heterocycl) groups,
 103 -C(=O)-N(heterocycl)₂ groups, -C(=O)N(aryl)(heterocycl)
 104 groups, -C(=O)-N(alkyl)(heterocycl) groups, substituted and
 105 unsubstituted heterocyclaminoalkyl groups, substituted and
 106 unsubstituted hydroxyalkyl groups, substituted and unsubstituted
 107 alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl
 108 groups, and substituted and unsubstituted heterocycloxyalkyl
 109 groups;

110 R¹⁴ is selected from the group consisting of H, -OH, substituted and
 111 unsubstituted alkoxy groups, substituted and unsubstituted aryloxy
 112 groups, -NH₂, substituted and unsubstituted alkylamino groups,
 113 substituted and unsubstituted arylamino groups, substituted and
 114 unsubstituted dialkylamino groups, substituted and unsubstituted
 115 diarylamino groups, substituted and unsubstituted (alkyl)(aryl)amino
 116 groups, substituted and unsubstituted alkyl groups, substituted and
 117 unsubstituted aryl groups, -C(=O)H, -C(=O)-alkyl groups, and
 118 -C(=O)-aryl groups;

119 R¹⁵ and R¹⁹ may be the same or different and are independently
 120 selected from the group consisting of substituted and unsubstituted

121 alkyl groups, substituted and unsubstituted aryl groups, substituted
122 and unsubstituted heterocyclyl groups, substituted and unsubstituted
123 heterocyclylalkyl groups, -C(=O)H, -C(=O)-alkyl groups,
124 -C(=O)-aryl groups, -C(=O)NH₂, -C(=O)NH(alkyl) groups,
125 -C(=O)NH(aryl) groups, -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂
126 groups, -C(=O)N(alkyl)(aryl) groups, substituted and unsubstituted
127 aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl
128 groups, substituted and unsubstituted dialkylaminoalkyl groups,
129 substituted and unsubstituted arylaminoalkyl groups, substituted and
130 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
131 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
132 heterocyclylaminoalkyl, substituted and unsubstituted
133 diheterocyclylaminoalkyl, substituted and unsubstituted
134 (heterocyclyl)(alkyl)aminoalkyl, substituted and unsubstituted
135 (heterocyclyl)(aryl)aminoalkyl; substituted and unsubstituted
136 alkoxyalkyl groups, substituted and unsubstituted hydroxyalkyl
137 groups, substituted and unsubstituted aryloxyalkyl groups, and
138 substituted and unsubstituted heterocyclioxyalkyl groups;

139 R¹⁶ and R²⁰ may be the same or different and are independently
140 selected from the group consisting of H, substituted and unsubstituted
141 alkyl groups, substituted and unsubstituted aryl groups, and
142 substituted and unsubstituted heterocyclyl groups;

143 R¹⁷ and R²¹ may be the same or different and are independently
144 selected from the group consisting of H, substituted and unsubstituted
145 alkyl groups, substituted and unsubstituted aryl groups, substituted
146 and unsubstituted heterocyclyl groups, -C(=O)H, -C(=O)-alkyl
147 groups, -C(=O)-aryl groups, -C(=O)NH₂, -C(=O)NH(alkyl)
148 groups, -C(=O)NH(aryl) groups, -C(=O)N(alkyl)₂ groups,
149 -C(=O)N(aryl)₂ groups, -C(=O)N(alkyl)(aryl) groups,

150 -C(=O)O-alkyl groups, -C(=O)O-aryl groups, substituted and
151 unsubstituted heterocyclylalkyl groups, substituted and unsubstituted
152 aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl
153 groups, substituted and unsubstituted dialkylaminoalkyl groups,
154 substituted and unsubstituted arylaminoalkyl groups, substituted and
155 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
156 (alkyl)(aryl)aminoalkyl groups, -C(=O)-heterocyclyl groups,
157 -C(=O)-O-heterocyclyl groups, -C(=O)NH(heterocyclyl) groups,
158 -C(=O)-N(heterocyclyl)₂ groups, -C(=O)N(aryl)(heterocyclyl)
159 groups, -C(=O)-N(alkyl)(heterocyclyl) groups, substituted and
160 unsubstituted heterocyclylaminoalkyl groups, substituted and
161 unsubstituted hydroxyalkyl groups, substituted and unsubstituted
162 alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl
163 groups, and substituted and unsubstituted heterocyclyloxyalkyl
164 groups;

165 R¹⁸, R²³, R²⁴, and R²⁵ may be the same or different and are
166 independently selected from the group consisting of H, -NH₂,
167 -NH(alkyl) groups, -NH(aryl) groups, -N(alkyl)₂ groups, -N(aryl)₂
168 groups, -N(alkyl)(aryl) groups, -NH(heterocyclyl) groups,
169 -N(heterocyclyl)(alkyl) groups, -N(heterocyclyl)(aryl) groups,
170 -N(heterocyclyl)₂ groups, substituted and unsubstituted alkyl groups,
171 substituted and unsubstituted aryl groups, -OH, substituted and
172 unsubstituted alkoxy groups, substituted and unsubstituted
173 heterocyclyl groups, substituted and unsubstituted aryloxy groups,
174 -NHOH, -N(alkyl)OH groups, -N(aryl)OH groups, -N(alkyl)O-alkyl
175 groups, -N(aryl)O-alkyl groups, -N(alkyl)O-aryl groups, and
176 -N(aryl)O-aryl groups; and

177 R²² is selected from the group consisting of substituted and
178 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
179 and substituted and unsubstituted heterocyclyl groups.

1 9. The compound according to claim 8, wherein Y is selected
2 from the group consisting of -OR¹⁰ groups, -NR¹²R¹³ groups, and substituted and
3 unsubstituted alkynyl groups.

1 10. The compound according to claim 8, wherein Z is an -NR¹⁴
2 group.

1 11. The compound according to claim 8, wherein R¹ is selected
2 from the group consisting of -H, substituted and unsubstituted alkoxy groups,
3 substituted and unsubstituted heterocyclalkoxy groups, substituted and
4 unsubstituted heterocyclloxy groups, and substituted and unsubstituted heterocycll
5 groups.

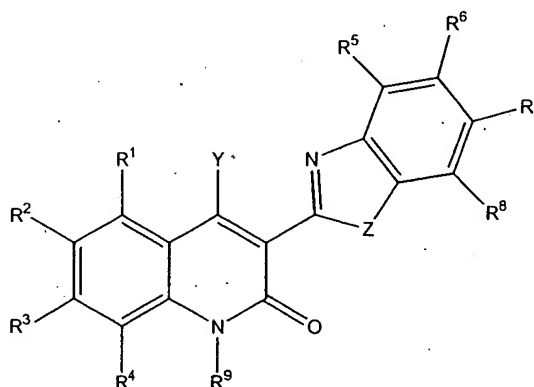
1 12. The compound according to claim 8, wherein R² is selected
2 from the group consisting of H, F, Cl, -NO₂, substituted and unsubstituted
3 heterocycll groups, and substituted and unsubstituted heterocycllalkoxy groups.

1 13. The compound according to claim 8, wherein R⁶ or R⁷ is an
2 alkyl group.

1 14. The compound according to claim 8, wherein R⁶ or R⁷ is an
2 -OR¹⁹ group and R¹⁹ is an alkyl group, an aryl group, a heterocycll group, or a
3 heterocycllalkyl group.

- 1 15. A compound having the structure I, a tautomer of the
2 compound, a pharmaceutically acceptable salt of the compound, or a
3 pharmaceutically acceptable salt of the tautomer

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I

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wherein,

- 7 Y is selected from the group consisting of -OH, SH, alkylthio
8 groups, arylthio groups, -OR¹⁰ groups, -C(=O)-R¹¹ groups, -NR¹²R¹³
9 groups, -CN, substituted and unsubstituted alkyl groups, substituted
10 and unsubstituted alkenyl groups, substituted and unsubstituted
11 alkynyl groups, substituted and unsubstituted aralkyl groups,
12 substituted and unsubstituted heterocyclylalkyl groups, substituted
13 and unsubstituted alkylaminoalkyl groups, substituted and
14 unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted
15 arylaminoalkyl groups, substituted and unsubstituted
16 diarylaminoalkyl groups, substituted and unsubstituted
17 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
18 heterocyclylaminoalkyl groups, substituted and unsubstituted
19 heterocyclyl groups, substituted and unsubstituted aryl groups,
20 substituted and unsubstituted heterocyclyloxyalkyl groups, substituted

21 and unsubstituted hydroxyalkyl groups, substituted and unsubstituted
22 alkoxyalkyl groups, and substituted and unsubstituted aryloxyalkyl
23 groups;

24 Z is selected from the group consisting of O, S, and NR^{14} groups;

25 R^1 , R^2 , R^3 , and R^4 may be the same or different and are
26 independently selected from the group consisting of H, Cl, Br, F, I,
27 -CN, -NO₂, -OH, -OR¹⁵ groups, -NR¹⁶R¹⁷ groups, substituted and
28 unsubstituted amidinyl groups, substituted and unsubstituted
29 guanidinyl groups, substituted and unsubstituted primary, secondary,
30 and tertiary alkyl groups, substituted and unsubstituted aryl groups,
31 substituted and unsubstituted alkenyl groups, substituted and
32 unsubstituted alkynyl groups, substituted and unsubstituted
33 heterocyclyl groups, substituted and unsubstituted aminoalkyl groups,
34 substituted and unsubstituted alkylaminoalkyl groups, substituted and
35 unsubstituted dialkylaminoalkyl groups, substituted and unsubstituted
36 arylaminoalkyl groups, substituted and unsubstituted
37 diarylaminoalkyl groups, substituted and unsubstituted
38 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
39 heterocyclylalkyl groups, and -C(=O)R¹⁸ groups;

40 R^5 , R^6 , R^7 , and R^8 may be the same or different and are
41 independently selected from the group consisting of H, Cl, Br, F, I,
42 -NO₂, -OH, -OR¹⁹ groups, -NR²⁰R²¹ groups, -SH, -SR²² groups,
43 -S(=O)R²³ groups, -S(=O)₂R²⁴ groups, -CN, substituted and
44 unsubstituted amidinyl groups, substituted and unsubstituted
45 guanidinyl groups, substituted and unsubstituted primary, secondary,
46 and tertiary alkyl groups, substituted and unsubstituted aryl groups,
47 substituted and unsubstituted alkenyl groups, substituted and
48 unsubstituted alkynyl groups, substituted and unsubstituted

49 heterocyclyl groups, substituted and unsubstituted alkylaminoalkyl
50 groups, substituted and unsubstituted dialkylaminoalkyl groups,
51 substituted and unsubstituted arylaminoalkyl groups, substituted and
52 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
-53 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
54 heterocyclylalkyl groups, $-C(=O)R^{25}$ groups, substituted and
55 unsubstituted aminoalkyl groups, substituted and unsubstituted
56 heterocyclylaminoalkyl groups, substituted and unsubstituted
57 hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl
58 groups, substituted and unsubstituted aryloxyalkyl groups, and
59 substituted and unsubstituted heterocyclyloxyalkyl groups;

60 R^9 and R^{14} may be the same or different and are independently
61 selected from the group consisting of H, -OH, substituted and
62 unsubstituted alkoxy groups, substituted and unsubstituted aryloxy
63 groups, $-NH_2$, substituted and unsubstituted alkylamino groups,
64 substituted and unsubstituted arylamino groups, substituted and
65 unsubstituted dialkylamino groups, substituted and unsubstituted
66 diarylamino groups, substituted and unsubstituted (alkyl)(aryl)amino
67 groups, substituted and unsubstituted alkyl groups, substituted and
68 unsubstituted aryl groups, $-C(=O)H$, $-C(=O)$ -alkyl groups, and
69 $-C(=O)$ -aryl groups;

70 R^{10} is selected from the group consisting of substituted and
71 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
72 substituted and unsubstituted heterocyclyl groups, substituted and
73 unsubstituted heterocyclylalkyl groups, $-C(=O)H$, $-C(=O)$ -alkyl
74 groups, $-C(=O)$ -aryl groups, $-C(=O)O$ -alkyl groups, $-C(=O)O$ -aryl
75 groups, $-C(=O)NH_2$, $-C(=O)NH$ (alkyl) groups, $-C(=O)NH$ (aryl)
76 groups, $-C(=O)N$ (alkyl)₂ groups, $-C(=O)N$ (aryl)₂ groups,
77 $-C(=O)N$ (alkyl)(aryl) groups, $-NH_2$, $-NH$ (alkyl) groups, $-NH$ (aryl)

78 groups, -N(alkyl)₂ groups, -N(alkyl)(aryl) groups, -N(aryl)₂ groups,
79 -C(=O)NH(heterocyclyl) groups, -C(=O)N(heterocyclyl)₂ groups,
80 -C(=O)N(alkyl)(heterocyclyl) groups, and
81 -C(=O)N(aryl)(heterocyclyl) groups;

82 R¹¹ is selected from the group consisting of H, -OH, alkoxy groups,
83 aryloxy groups, -NH₂, -NH(alkyl) groups, -NH(aryl) groups,
84 -N(alkyl)₂ groups, -N(aryl)₂ groups, -N(alkyl)(aryl) groups,
85 substituted and unsubstituted alkyl groups, -NH(heterocyclyl) groups,
86 -N(heterocyclyl)₂ groups, -N(alkyl)(heterocyclyl) groups, and
87 substituted and unsubstituted aryl groups;

88 R¹² is selected from the group consisting of H, substituted and
89 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
90 and substituted and unsubstituted heterocyclyl groups;

91 R¹³ is selected from the group consisting of H, substituted and
92 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
93 substituted and unsubstituted heterocyclyl groups, -OH, alkoxy
94 groups, aryloxy groups, -NH₂, substituted and unsubstituted
95 heterocyclylalkyl groups, substituted and unsubstituted aminoalkyl
96 groups, substituted and unsubstituted alkylaminoalkyl groups,
97 substituted and unsubstituted dialkylaminoalkyl groups, substituted
98 and unsubstituted arylaminoalkyl groups, substituted and
99 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
100 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
101 alkylamino groups, substituted and unsubstituted arylamino groups,
102 substituted and unsubstituted dialkylamino groups, substituted and
103 unsubstituted diarylamino groups, substituted and unsubstituted
104 (alkyl)(aryl)amino groups, -C(=O)H, -C(=O)-alkyl groups,
105 -C(=O)-aryl groups, -C(=O)O-alkyl groups, -C(=O)O-aryl groups,

106 -C(=O)NH₂, -C(=O)NH(alkyl) groups, -C(=O)NH(aryl) groups,
107 -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂ groups,
108 -C(=O)N(alkyl)(aryl) groups, -C(=O)-heterocyclyl groups,
109 -C(=O)-O-heterocyclyl groups, -C(=O)NH(heterocyclyl) groups,
110 -C(=O)-N(heterocyclyl)₂ groups, -C(=O)-N(alkyl)(heterocyclyl)
111 groups, -C(=O)-N(aryl)(heterocyclyl) groups, substituted and
112 unsubstituted heterocyclylaminoalkyl groups, substituted and
113 unsubstituted hydroxyalkyl groups, substituted and unsubstituted
114 alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl
115 groups, and substituted and unsubstituted heterocycliloxyalkyl
116 groups;

117 R¹⁵ and R¹⁹ may be the same or different and are independently
118 selected from the group consisting of substituted and unsubstituted
119 alkyl groups, substituted and unsubstituted aryl groups, substituted
120 and unsubstituted heterocyclyl groups, substituted and unsubstituted
121 heterocyclylalkyl groups, -C(=O)H, -C(=O)-alkyl groups,
122 -C(=O)-aryl groups, -C(=O)NH₂, -C(=O)NH(alkyl) groups,
123 -C(=O)NH(aryl) groups, -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂
124 groups, -C(=O)N(alkyl)(aryl) groups, substituted and unsubstituted
125 aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl
126 groups, substituted and unsubstituted dialkylaminoalkyl groups,
127 substituted and unsubstituted arylaminoalkyl groups, substituted and
128 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
129 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
130 heterocyclylaminoalkyl, substituted and unsubstituted
131 diheterocyclylaminoalkyl, substituted and unsubstituted
132 (heterocyclyl)(alkyl)aminoalkyl, substituted and unsubstituted
133 (heterocyclyl)(aryl)aminoalkyl, substituted and unsubstituted
134 alkoxyalkyl groups, substituted and unsubstituted hydroxyalkyl

135 groups, substituted and unsubstituted aryloxyalkyl groups, and
136 substituted and unsubstituted heterocycloxyalkyl groups;

137 R^{16} and R^{20} may be the same or different and are independently
138 selected from the group consisting of H, substituted and unsubstituted
139 alkyl groups, substituted and unsubstituted aryl groups, and
140 substituted and unsubstituted heterocyclyl groups;

141 R^{17} and R^{21} may be the same or different and are independently
142 selected from the group consisting of H, substituted and unsubstituted
143 alkyl groups, substituted and unsubstituted aryl groups, substituted
144 and unsubstituted heterocyclyl groups, $-C(=O)H$, $-C(=O)$ -alkyl
145 groups, $-C(=O)$ -aryl groups, $-C(=O)NH_2$, $-C(=O)NH$ (alkyl)
146 groups, $-C(=O)NH$ (aryl) groups, $-C(=O)N$ (alkyl) $_2$ groups,
147 $-C(=O)N$ (aryl) $_2$ groups, $-C(=O)N$ (alkyl)(aryl) groups,
148 $-C(=O)O$ -alkyl groups, $-C(=O)O$ -aryl groups, substituted and
149 unsubstituted heterocyclylalkyl groups, substituted and unsubstituted
150 aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl
151 groups, substituted and unsubstituted dialkylaminoalkyl groups,
152 substituted and unsubstituted arylaminoalkyl groups, substituted and
153 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
154 (alkyl)(aryl)aminoalkyl groups, $-C(=O)$ -heterocyclyl groups,
155 $-C(=O)O$ -heterocyclyl groups, $-C(=O)NH$ (heterocyclyl) groups,
156 $-C(=O)N$ (heterocyclyl) $_2$ groups, $-C(=O)N$ (alkyl)(heterocyclyl)
157 groups, $-C(=O)N$ (aryl)(heterocyclyl) groups, substituted and
158 unsubstituted heterocyclylaminoalkyl groups, substituted and
159 unsubstituted hydroxyalkyl groups, substituted and unsubstituted
160 alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl
161 groups, and substituted and unsubstituted heterocycloxyalkyl
162 groups;

163 R¹⁸, R²³, R²⁴, and R²⁵ may be the same or different and are
164 independently selected from the group consisting of H, -NH₂,
165 -NH(alkyl) groups, -NH(aryl) groups, -N(alkyl)₂ groups, -N(aryl)₂
166 groups, -N(alkyl)(aryl) groups, -NH(heterocyclyl) groups,
- 167 -N(heterocyclyl)(alkyl) groups, -N(heterocyclyl)(aryl) groups,
168 -N(heterocyclyl)₂ groups, substituted and unsubstituted alkyl groups,
169 substituted and unsubstituted aryl groups, -OH, substituted and
170 unsubstituted alkoxy groups, substituted and unsubstituted aryloxy
171 groups, substituted and unsubstituted heterocyclyl groups, -NHOH,
172 -N(alkyl)OH groups, -N(aryl)OH groups, -N(alkyl)O-alkyl groups,
173 -N(aryl)O-alkyl groups, -N(alkyl)O-aryl groups, and -N(aryl)O-aryl
174 groups; and

175 R²² is selected from the group consisting of substituted and
176 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
177 and substituted and unsubstituted heterocyclyl groups;

178 and further wherein at least one of R⁵, R⁶, R⁷, or R⁸ is selected from
179 the group consisting of substituted and unsubstituted amidinyl groups,
180 substituted and unsubstituted guanidinyl groups, substituted and
181 unsubstituted saturated heterocyclyl groups, substituted and
182 unsubstituted alkylaminoalkyl groups, substituted and unsubstituted
183 dialkylaminoalkyl groups, substituted and unsubstituted
184 arylaminoalkyl groups, substituted and unsubstituted
185 diarylaminoalkyl groups, substituted and unsubstituted
186 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
187 heterocyclylalkyl groups, substituted and unsubstituted
188 heterocyclylaminoalkyl groups, substituted and unsubstituted
189 hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl
190 groups, substituted and unsubstituted aryloxyalkyl groups, and
191 substituted and unsubstituted heterocycloxyalkyl groups; -OR¹⁹

192 groups wherein R^{19} is selected from the group consisting of
 193 substituted and unsubstituted aryl groups, substituted and
 194 unsubstituted heterocyclyl groups, substituted and unsubstituted
 195 heterocyclylalkyl groups, $-C(=O)H$, $-C(=O)$ -aryl groups,
 196 $-C(=O)NH_2$, $-C(=O)NH(alkyl)$ groups, $-C(=O)NH(aryl)$ groups,
 197 $-C(=O)N(alkyl)_2$ groups, $-C(=O)N(aryl)_2$ groups,
 198 $-C(=O)N(alkyl)(aryl)$ groups, substituted and unsubstituted
 199 aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl
 200 groups, substituted and unsubstituted dialkylaminoalkyl groups,
 201 substituted and unsubstituted arylaminoalkyl groups, substituted and
 202 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
 203 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
 204 heterocyclylaminoalkyl groups, substituted and unsubstituted
 205 diheterocyclylaminoalkyl groups, substituted and unsubstituted
 206 (heterocyclyl)(alkyl)aminoalkyl groups, substituted and unsubstituted
 207 (heterocyclyl)(aryl)aminoalkyl groups, substituted and unsubstituted
 208 hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl
 209 groups, substituted and unsubstituted aryloxyalkyl groups, and
 210 substituted and unsubstituted heterocycloxyalkyl groups; $-NR^{20}R^{21}$
 211 groups wherein R^{20} is selected from the group consisting of
 212 substituted and unsubstituted heterocyclyl groups; $-NR^{20}R^{21}$ groups
 213 wherein R^{21} is selected from the group consisting of substituted and
 214 unsubstituted heterocyclyl groups, $-C(=O)H$, $-C(=O)$ -aryl groups,
 215 $-C(=O)NH_2$, $-C(=O)NH(alkyl)$ groups, $-C(=O)NH(aryl)$ groups,
 216 $-C(=O)N(alkyl)_2$ groups, $-C(=O)N(aryl)_2$ groups,
 217 $-C(=O)N(alkyl)(aryl)$ groups, $-C(=O)O$ -alkyl groups,
 218 $-C(=O)O$ -aryl groups, substituted and unsubstituted aminoalkyl
 219 groups, substituted and unsubstituted alkylaminoalkyl groups,
 220 substituted and unsubstituted dialkylaminoalkyl groups, substituted
 221 and unsubstituted arylaminoalkyl groups, substituted and
 222 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted

223 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
224 heterocyclylaminoalkyl groups, substituted and unsubstituted
225 hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl
226 groups, substituted and unsubstituted aryloxyalkyl groups, substituted
227 and unsubstituted heterocyclylalkyl groups, and substituted and
228 unsubstituted heterocycliloxyalkyl groups; and $-C(=O)R^{25}$ groups
229 wherein R^{25} is selected from the group consisting of H, $-NH_2$,
230 $-NH(alkyl)$ groups, $-NH(aryl)$ groups, $-N(alkyl)_2$ groups, $-N(aryl)_2$
231 groups, $-N(alkyl)(aryl)$ groups, $-NH(heterocyclyl)$ groups,
232 $-N(heterocyclyl)(alkyl)$ groups, $-N(heterocyclyl)(aryl)$ groups,
233 $-N(heterocyclyl)_2$ groups, substituted and unsubstituted aryl groups,
234 substituted and unsubstituted aryloxy groups, and substituted and
235 unsubstituted heterocyclyl groups.

1 16. The compound according to claim 15, wherein Y is selected
2 from the group consisting of $-OR^{10}$ groups, $-NR^{12}R^{13}$ groups, and substituted and
3 unsubstituted alkynyl groups.

1 17. The compound according to claim 15, wherein Z is an $-NR^{14}$
2 group.

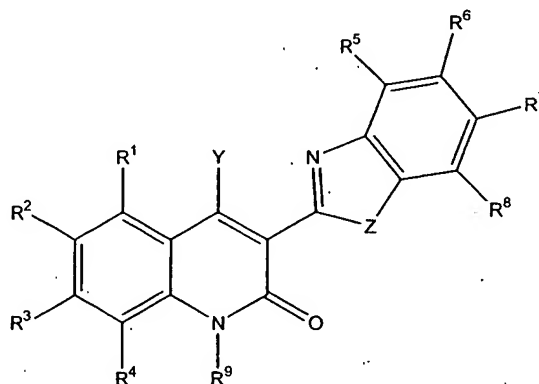
1 18. The compound according to any of claims 40-43, wherein R^1
2 is selected from the group consisting of $-H$, substituted and unsubstituted alkoxy
3 groups, substituted and unsubstituted heterocyclylalkoxy groups, substituted and
4 unsubstituted heterocycliloxy groups, and substituted and unsubstituted heterocyclyl
5 groups.

1 19. The compound according to claim 15, wherein R^2 is selected
2 from the group consisting of H, F, Cl, $-NO_2$, substituted and unsubstituted
3 heterocyclyl groups, and substituted and unsubstituted heterocyclylalkoxy groups.

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15 diarylaminalkyl groups, substituted and unsubstituted
16 (alkyl)(aryl)aminalkyl groups, substituted and unsubstituted
17 heterocyclaminalkyl groups, substituted and unsubstituted
18 heterocycl groups, substituted and unsubstituted aryl groups,
19 substituted and unsubstituted heterocyclalkyl groups, substituted
20 and unsubstituted hydroxalkyl groups, substituted and unsubstituted
21 alkoxalkyl groups, and substituted and unsubstituted aryloxyalkyl
22 groups;

23 Z is selected from the group consisting of O, S, and NR^{14} groups;

24 R^1 , R^2 , R^3 , and R^4 may be the same or different and are
25 independently selected from the group consisting of H, Cl, Br, F, I,
26 -CN, -NO₂, -OH, -OR¹⁵ groups, -NR¹⁶R¹⁷ groups, substituted and
27 unsubstituted amidinyl groups, substituted and unsubstituted
28 guanidinyl groups, substituted and unsubstituted primary, secondary,
29 and tertiary alkyl groups, substituted and unsubstituted aryl groups,
30 substituted and unsubstituted alkenyl groups, substituted and
31 unsubstituted alkynyl groups, substituted and unsubstituted
32 heterocycl groups, substituted and unsubstituted aminalkyl groups,
33 substituted and unsubstituted alkylaminalkyl groups, substituted and
34 unsubstituted dialkylaminalkyl groups, substituted and unsubstituted
35 arylaminalkyl groups, substituted and unsubstituted
36 diarylaminalkyl groups, substituted and unsubstituted
37 (alkyl)(aryl)aminalkyl groups, substituted and unsubstituted
38 heterocyclalkyl groups, and -C(=O)R¹⁸ groups;

39 R^5 , R^6 , R^7 , and R^8 may be the same or different and are
40 independently selected from the group consisting of H, Cl, Br, F, I,
41 -NO₂, -OH, -OR¹⁹ groups, -NR²⁰R²¹ groups, -SH, -SR²² groups,
42 -S(=O)R²³ groups, -S(=O)₂R²⁴ groups, -CN, substituted and

43 unsubstituted amidinyl groups, substituted and unsubstituted
44 guanidinyl groups, substituted and unsubstituted primary, secondary,
45 and tertiary alkyl groups, substituted and unsubstituted aryl groups,
46 substituted and unsubstituted alkenyl groups, substituted and
47 unsubstituted-alkynyl groups, substituted and unsubstituted
48 heterocyclyl groups, substituted and unsubstituted alkylaminoalkyl
49 groups, substituted and unsubstituted dialkylaminoalkyl groups,
50 substituted and unsubstituted arylaminoalkyl groups, substituted and
51 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
52 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
53 heterocyclylalkyl groups, $-C(=O)R^{25}$ groups, substituted and
54 unsubstituted aminoalkyl groups, substituted and unsubstituted
55 heterocyclylaminoalkyl groups, substituted and unsubstituted
56 hydroxyalkyl groups, substituted and unsubstituted alkoxyalkyl
57 groups, substituted and unsubstituted aryloxyalkyl groups, and
58 substituted and unsubstituted heterocycloxyalkyl groups;

59 R^9 and R^{14} may be the same or different and are independently
60 selected from the group consisting of H, -OH, substituted and
61 unsubstituted alkoxy groups, substituted and unsubstituted aryloxy
62 groups, $-NH_2$, substituted and unsubstituted alkylamino groups,
63 substituted and unsubstituted arylamino groups, substituted and
64 unsubstituted dialkylamino groups, substituted and unsubstituted
65 diarylamino groups, substituted and unsubstituted (alkyl)(aryl)amino
66 groups, substituted and unsubstituted alkyl groups, substituted and
67 unsubstituted aryl groups, $-C(=O)H$, $-C(=O)$ -alkyl groups, and
68 $-C(=O)$ -aryl groups;

69 R^{10} is selected from the group consisting of substituted and
70 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
71 substituted and unsubstituted heterocyclyl groups, substituted and

72 unsubstituted heterocyclylalkyl groups, $-C(=O)H$, $-C(=O)$ -alkyl
73 groups, $-C(=O)$ -aryl groups, $-C(=O)O$ -alkyl groups, $-C(=O)O$ -aryl
74 groups, $-C(=O)NH_2$, $-C(=O)NH$ (alkyl) groups, $-C(=O)NH$ (aryl)
75 groups, $-C(=O)N$ (alkyl)₂ groups, $-C(=O)N$ (aryl)₂ groups,
76 $-C(=O)N$ (alkyl)(aryl) groups, $-NH_2$, $-NH$ (alkyl) groups, $-NH$ (aryl)
77 groups, $-N$ (alkyl)₂ groups, $-N$ (alkyl)(aryl) groups, $-N$ (aryl)₂ groups,
78 $-C(=O)NH$ (heterocyclyl) groups, $-C(=O)N$ (heterocyclyl)₂ groups,
79 $-C(=O)N$ (alkyl)(heterocyclyl) groups, and
80 $-C(=O)N$ (aryl)(heterocyclyl) groups;

81 R^{11} is selected from the group consisting of H, $-OH$, alkoxy groups,
82 aryloxy groups, $-NH_2$, $-NH$ (alkyl) groups, $-NH$ (aryl) groups,
83 $-N$ (alkyl)₂ groups, $-N$ (aryl)₂ groups, $-N$ (alkyl)(aryl) groups,
84 substituted and unsubstituted alkyl groups, $-NH$ (heterocyclyl) groups,
85 $-N$ (heterocyclyl)₂ groups, $-N$ (alkyl)(heterocyclyl) groups, and
86 substituted and unsubstituted aryl groups;

87 R^{12} is selected from the group consisting of H, substituted and
88 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
89 and substituted and unsubstituted heterocyclyl groups;

90 R^{13} is selected from the group consisting of H, substituted and
91 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
92 substituted and unsubstituted heterocyclyl groups, $-OH$, alkoxy
93 groups, aryloxy groups, $-NH_2$, substituted and unsubstituted
94 heterocyclylalkyl groups, substituted and unsubstituted aminoalkyl
95 groups, substituted and unsubstituted alkylaminoalkyl groups,
96 substituted and unsubstituted dialkylaminoalkyl groups, substituted
97 and unsubstituted arylaminoalkyl groups, substituted and
98 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
99 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted

100 alkylamino groups, substituted and unsubstituted arylamino groups,
101 substituted and unsubstituted dialkylamino groups, substituted and
102 unsubstituted diarylamino groups, substituted and unsubstituted
103 (alkyl)(aryl)amino groups, -C(=O)H, -C(=O)-alkyl groups,
104 -C(=O)-aryl groups, -C(=O)O-alkyl groups, -C(=O)O-aryl groups,
105 -C(=O)NH₂, -C(=O)NH(alkyl) groups, -C(=O)NH(aryl) groups,
106 -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂ groups,
107 -C(=O)N(alkyl)(aryl) groups, -C(=O)-heterocyclyl groups,
108 -C(=O)-O-heterocyclyl groups, -C(=O)NH(heterocyclyl) groups,
109 -C(=O)-N(heterocyclyl)₂ groups, -C(=O)-N(alkyl)(heterocyclyl)
110 groups, -C(=O)-N(aryl)(heterocyclyl) groups, substituted and
111 unsubstituted heterocyclylaminoalkyl groups, substituted and
112 unsubstituted hydroxyalkyl groups, substituted and unsubstituted
113 alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl
114 groups, and substituted and unsubstituted heterocyclyoxyalkyl
115 groups;

116 R¹⁵ and R¹⁹ may be the same or different and are independently
117 selected from the group consisting of substituted and unsubstituted
118 alkyl groups, substituted and unsubstituted aryl groups, substituted
119 and unsubstituted heterocyclyl groups, substituted and unsubstituted
120 heterocyclylalkyl groups, -C(=O)H, -C(=O)-alkyl groups,
121 -C(=O)-aryl groups, -C(=O)NH₂, -C(=O)NH(alkyl) groups,
122 -C(=O)NH(aryl) groups, -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂
123 groups, -C(=O)N(alkyl)(aryl) groups, substituted and unsubstituted
124 aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl
125 groups, substituted and unsubstituted dialkylaminoalkyl groups,
126 substituted and unsubstituted arylaminoalkyl groups, substituted and
127 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
128 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
129 heterocyclylaminoalkyl, substituted and unsubstituted

130 diheterocyclylaminoalkyl, substituted and unsubstituted
131 (heterocyclyl)(alkyl)aminoalkyl, substituted and unsubstituted
132 (heterocyclyl)(aryl)aminoalkyl, substituted and unsubstituted
133 alkoxyalkyl groups, substituted and unsubstituted hydroxyalkyl
134 groups, substituted and unsubstituted aryloxyalkyl groups, and
135 substituted and unsubstituted heterocycloxyalkyl groups;

136 R^{16} and R^{20} may be the same or different and are independently
137 selected from the group consisting of H, substituted and unsubstituted
138 alkyl groups, substituted and unsubstituted aryl groups, and
139 substituted and unsubstituted heterocyclyl groups;

140 R^{17} and R^{21} may be the same or different and are independently
141 selected from the group consisting of H, substituted and unsubstituted
142 alkyl groups, substituted and unsubstituted aryl groups, substituted
143 and unsubstituted heterocyclyl groups, $-C(=O)H$, $-C(=O)$ -alkyl
144 groups, $-C(=O)$ -aryl groups, $-C(=O)NH_2$, $-C(=O)NH(alkyl)$
145 groups, $-C(=O)NH(aryl)$ groups, $-C(=O)N(alkyl)_2$ groups,
146 $-C(=O)N(aryl)_2$ groups, $-C(=O)N(alkyl)(aryl)$ groups,
147 $-C(=O)O$ -alkyl groups, $-C(=O)O$ -aryl groups, substituted and
148 unsubstituted heterocyclylalkyl groups, substituted and unsubstituted
149 aminoalkyl groups, substituted and unsubstituted alkylaminoalkyl
150 groups, substituted and unsubstituted dialkylaminoalkyl groups,
151 substituted and unsubstituted arylaminoalkyl groups, substituted and
152 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
153 (alkyl)(aryl)aminoalkyl groups, $-C(=O)$ -heterocyclyl groups,
154 $-C(=O)$ -O-heterocyclyl groups, $-C(=O)NH(heterocyclyl)$ groups,
155 $-C(=O)$ -N(heterocyclyl) $_2$ groups, $-C(=O)$ -N(alkyl)(heterocyclyl)
156 groups, $-C(=O)$ -N(aryl)(heterocyclyl) groups, substituted and
157 unsubstituted heterocyclylaminoalkyl groups, substituted and
158 unsubstituted hydroxyalkyl groups, substituted and unsubstituted

159 alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl
160 groups, and substituted and unsubstituted heterocycloxyalkyl
161 groups;

162 R^{18} , R^{23} , R^{24} , and R^{25} may be the same or different and are
163 independently selected from the group consisting of H, $-NH_2$,
164 $-NH(alkyl)$ groups, $-NH(aryl)$ groups, $-N(alkyl)_2$ groups, $-N(aryl)_2$
165 groups, $-N(alkyl)(aryl)$ groups, $-NH(heterocyclyl)$ groups,
166 $-N(heterocyclyl)(alkyl)$ groups, $-N(heterocyclyl)(aryl)$ groups,
167 $-N(heterocyclyl)_2$ groups, substituted and unsubstituted alkyl groups,
168 substituted and unsubstituted aryl groups, $-OH$, substituted and
169 unsubstituted alkoxy groups, substituted and unsubstituted aryloxy
170 groups, substituted and unsubstituted heterocyclyl groups, $-NHOH$,
171 $-N(alkyl)OH$ groups, $-N(aryl)OH$ groups, $-N(alkyl)O-alkyl$ groups,
172 $-N(aryl)O-alkyl$ groups, $-N(alkyl)O-aryl$ groups, and $-N(aryl)O-aryl$
173 groups; and

174 R^{22} is selected from the group consisting of substituted and
175 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
176 and substituted and unsubstituted heterocyclyl groups,

177 and further wherein, at least one of R^1 , R^2 , R^3 , or R^4 is an $-OR^{15}$
178 group and R^{15} is selected from the group consisting of substituted and
179 unsubstituted heterocyclylalkyl groups, substituted and unsubstituted
180 dialkylaminoalkyl groups, substituted and unsubstituted
181 alkylaminoalkyl groups, substituted and unsubstituted aminoalkyl
182 groups, substituted and unsubstituted diarylaminoalkyl groups,
183 substituted and unsubstituted arylaminoalkyl groups, substituted and
184 unsubstituted $(alkyl)(aryl)aminoalkyl$ groups, substituted and
185 unsubstituted heterocyclyl groups, substituted and unsubstituted
186 heterocyclylaminoalkyl groups, substituted and unsubstituted

187 diheterocyclylaminoalkyl groups, substituted and unsubstituted
188 (heterocyclyl)(alkyl)aminoalkyl groups, and substituted and
189 unsubstituted (heterocyclyl)(aryl)aminoalkyl groups.

1 23. The compound according to claim 22, wherein R¹ is an -OR¹⁵
2 group and R¹⁵ is selected from the group consisting of substituted and unsubstituted
3 heterocyclylalkyl groups, substituted and unsubstituted dialkylaminoalkyl groups,
4 substituted and unsubstituted alkylaminoalkyl groups, substituted and unsubstituted
5 aminoalkyl groups, substituted and unsubstituted diarylaminoalkyl groups,
6 substituted and unsubstituted arylaminoalkyl groups, substituted and unsubstituted
7 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted heterocyclyl groups,
8 substituted and unsubstituted heterocyclylaminoalkyl groups, substituted and
9 unsubstituted diheterocyclylaminoalkyl groups, substituted and unsubstituted
10 (heterocyclyl)(alkyl)aminoalkyl groups, and substituted and unsubstituted
11 (heterocyclyl)(aryl)aminoalkyl groups.

1 24. The compound according to claim 22, wherein Z is an -NR¹⁰
2 group.

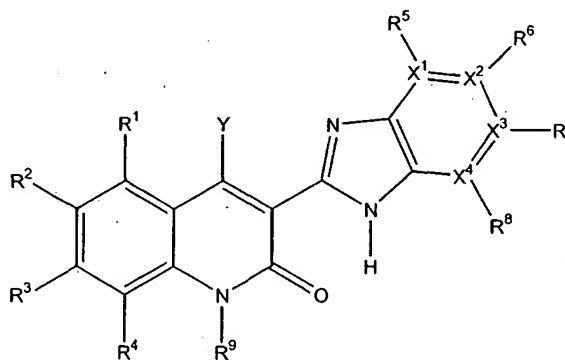
1 25. The compound according to claim 22, wherein R¹ is selected
2 from the group consisting of -H, substituted and unsubstituted alkoxy groups,
3 substituted and unsubstituted heterocyclylalkoxy groups, substituted and
4 unsubstituted heterocycliloxy groups, and substituted and unsubstituted heterocyclyl
5 groups.

1 26. The compound according to claim 22, wherein R² is selected
2 from the group consisting of H, F, Cl, -NO₂, substituted and unsubstituted
3 heterocyclyl groups, and substituted and unsubstituted heterocyclylalkoxy groups.

1 27. The compound according to claim 22, wherein R⁶ or R⁷ is an
2 alkyl group.

1 28. The compound according to claim 22, wherein R⁶ or R⁷ is an
2 -OR¹⁹ group and R¹⁹ is an alkyl group, an aryl group, a heterocyclyl group, or a
3 heterocyclylalkyl group.

1 29. A compound having the structure II, a tautomer of the
2 compound, a pharmaceutically acceptable salt of the compound, or a
3 pharmaceutically acceptable salt of the tautomer



II

5 wherein,

6 Y is selected from the group consisting of H, -OH, -OR¹⁰ groups,
7 -SH, -SR¹¹ groups, -NR¹²R¹³ groups, -CN, -C(=O)-R¹⁴ groups,
8 substituted and unsubstituted alkyl groups, substituted and
9 unsubstituted alkenyl groups, substituted and unsubstituted alkynyl
10 groups, substituted and unsubstituted aralkyl groups, substituted and
11 unsubstituted heterocyclylalkyl groups, substituted and unsubstituted
12 alkylaminoalkyl groups, substituted and unsubstituted
13 dialkylaminoalkyl groups, substituted and unsubstituted
14 arylaminoalkyl groups, substituted and unsubstituted

15 diarylaminoalkyl groups, substituted and unsubstituted
16 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
17 heterocyclylaminoalkyl groups, substituted and unsubstituted
18 heterocyclyl groups, substituted and unsubstituted aryl groups,
19 substituted and unsubstituted hydroxyalkyl groups, substituted and
20 unsubstituted alkoxyalkyl groups, substituted and unsubstituted
21 aryloxyalkyl groups, and substituted and unsubstituted
22 heterocycloxyalkyl groups;

23 X^1 , X^2 , X^3 , and X^4 are selected from the group consisting of C and
24 N, wherein at least one of X^1 , X^2 , X^3 , or X^4 is N;

25 R^1 , R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , and R^8 may be the same or different and
26 are independently selected from the group consisting of H, Cl, Br, F,
27 I, $-\text{NO}_2$, $-\text{CN}$, $-\text{OH}$, $-\text{OR}^{15}$ groups, $-\text{NR}^{16}\text{R}^{17}$ groups, $-\text{C}(=\text{O})\text{R}^{18}$
28 groups, $-\text{SH}$, $-\text{SR}^{19}$ groups, $-\text{S}(=\text{O})\text{R}^{20}$ groups, $\text{S}(=\text{O})_2\text{R}^{21}$ groups,
29 substituted and unsubstituted amidinyl groups, substituted and
30 unsubstituted guanidinyl groups, substituted and unsubstituted
31 primary, secondary, and tertiary alkyl groups, substituted and
32 unsubstituted aryl groups, substituted and unsubstituted alkenyl
33 groups, substituted and unsubstituted alkynyl groups, substituted and
34 unsubstituted heterocyclyl groups, substituted and unsubstituted
35 alkylaminoalkyl groups, substituted and unsubstituted
36 dialkylaminoalkyl groups, substituted and unsubstituted
37 arylaminoalkyl groups, substituted and unsubstituted
38 diarylaminoalkyl groups, substituted and unsubstituted
39 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
40 heterocyclylalkyl groups, substituted and unsubstituted aminoalkyl
41 groups, substituted and unsubstituted heterocyclylaminoalkyl groups,
42 substituted and unsubstituted hydroxyalkyl groups, substituted and
43 unsubstituted alkoxyalkyl groups, substituted and unsubstituted

44 aryloxyalkyl groups, and substituted and unsubstituted
45 heterocycloxyalkyl groups; R^5 is absent or is H if X^1 is N; R^6 is
46 absent or is H if X^2 is N; R^7 is absent or is H if X^3 is N; and R^8 is
47 absent or is H if X^4 is N;

48 R^9 is selected from the group consisting of H, -OH, substituted and
49 unsubstituted alkoxy groups, substituted and unsubstituted aryloxy
50 groups, -NH₂, substituted and unsubstituted alkylamino groups,
51 substituted and unsubstituted arylamino groups, substituted and
52 unsubstituted dialkylamino groups, substituted and unsubstituted
53 diarylamino groups, substituted and unsubstituted (alkyl)(aryl)amino
54 groups, substituted and unsubstituted alkyl groups, substituted and
55 unsubstituted aryl groups, -C(=O)H, -C(=O)-alkyl groups, and
56 -C(=O)-aryl groups;

57 R^{10} is selected from the group consisting of substituted and
58 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
59 substituted and unsubstituted heterocyclyl groups, substituted and
60 unsubstituted heterocyclylalkyl groups, -C(=O)H, -C(=O)-alkyl
61 groups, -C(=O)-aryl groups, -C(=O)O-alkyl groups, -C(=O)O-aryl
62 groups, -C(=O)NH₂, -C(=O)NH(alkyl) groups, -C(=O)NH(aryl)
63 groups, -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂ groups,
64 -C(=O)N(alkyl)(aryl) groups, -NH₂, -NH(alkyl) groups, -NH(aryl)
65 groups, -N(alkyl)₂ groups, -N(alkyl)(aryl) groups, -N(aryl)₂ groups,
66 -C(=O)NH(heterocyclyl) groups, -C(=O)N(heterocyclyl)₂ groups,
67 -C(=O)N(alkyl)(heterocyclyl) groups, and
68 -C(=O)N(aryl)(heterocyclyl) groups;

69 R^{11} and R^{19} may be the same or different and are independently
70 selected from the group consisting of substituted and unsubstituted
71 alkyl groups, and substituted and unsubstituted aryl groups;

72 R¹² is selected from the group consisting of H, substituted and
73 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
74 and substituted and unsubstituted heterocyclyl groups;

75 R¹³ is selected from the group consisting of H, substituted and
76 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
77 substituted and unsubstituted heterocyclyl groups, -OH, alkoxy
78 groups, aryloxy groups, -NH₂, substituted and unsubstituted
79 heterocyclylalkyl groups, substituted and unsubstituted aminoalkyl
80 groups, substituted and unsubstituted alkylaminoalkyl groups,
81 substituted and unsubstituted dialkylaminoalkyl groups, substituted
82 and unsubstituted arylaminoalkyl groups, substituted and
83 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
84 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
85 alkylamino groups, substituted and unsubstituted arylamino groups,
86 substituted and unsubstituted dialkylamino groups, substituted and
87 unsubstituted diarylamino groups, substituted and unsubstituted
88 (alkyl)(aryl)amino groups, -C(=O)H, -C(=O)-alkyl groups,
89 -C(=O)-aryl groups, -C(=O)O-alkyl groups, -C(=O)O-aryl groups,
90 -C(=O)NH₂, -C(=O)NH(alkyl) groups, -C(=O)NH(aryl) groups,
91 -C(=O)N(alkyl)₂ groups, -C(=O)N(aryl)₂ groups,
92 -C(=O)N(alkyl)(aryl) groups, -C(=O)-heterocyclyl groups,
93 -C(=O)-O-heterocyclyl groups, -C(=O)NH(heterocyclyl) groups,
94 -C(=O)-N(heterocyclyl)₂ groups, -C(=O)-N(alkyl)(heterocyclyl)
95 groups, -C(=O)-N(aryl)(heterocyclyl) groups, substituted and
96 unsubstituted heterocyclylaminoalkyl groups, substituted and
97 unsubstituted hydroxyalkyl groups, substituted and unsubstituted
98 alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl
99 groups, and substituted and unsubstituted heterocycliloxyalkyl
100 groups;

101 R¹⁴ is selected from the group consisting of H, -OH, alkoxy groups,
102 aryloxy groups, -NH₂, -NH(alkyl) groups, -NH(aryl) groups,
103 -N(alkyl)₂ groups, -N(aryl)₂ groups, -N(alkyl)(aryl) groups,
104 substituted and unsubstituted alkyl groups, substituted and
105 unsubstituted aryl groups, -NH(heterocyclyl) groups,
106 -N(heterocyclyl)₂ groups, -N(alkyl)(heterocyclyl) groups, and
107 -N(aryl)(heterocyclyl) groups;

108 R¹² and R¹³ may join together to form a 5 to 7 membered saturated or
109 unsaturated, substituted or unsubstituted N-containing ring;

110 R¹⁵ is selected from the group consisting of substituted and
111 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
112 substituted and unsubstituted heterocyclyl groups, substituted and
113 unsubstituted heterocyclylalkyl groups, -C(=O)H, -C(=O)-alkyl
114 groups, -C(=O)-aryl groups, -C(=O)NH₂, -C(=O)NH(alkyl)
115 groups, -C(=O)NH(aryl) groups, -C(=O)N(alkyl)₂ groups,
116 -C(=O)N(aryl)₂ groups, -C(=O)N(alkyl)(aryl) groups, substituted
117 and unsubstituted aminoalkyl groups, substituted and unsubstituted
118 alkylaminoalkyl groups, substituted and unsubstituted
119 dialkylaminoalkyl groups, substituted and unsubstituted
120 arylaminoalkyl groups, substituted and unsubstituted
121 diarylaminoalkyl groups, substituted and unsubstituted
122 (alkyl)(aryl)aminoalkyl groups, substituted and unsubstituted
123 heterocyclylaminoalkyl groups, substituted and unsubstituted
124 diheterocyclylaminoalkyl groups, substituted and unsubstituted
125 (heterocyclyl)(alkyl)aminoalkyl groups, substituted and unsubstituted
126 (heterocyclyl)(aryl)aminoalkyl groups, substituted and unsubstituted
127 alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl
128 groups, substituted and unsubstituted hydroxyalkyl groups, and
129 substituted and unsubstituted heterocycloxyalkyl groups;

130 R^{16} is selected from the group consisting of H, substituted and
131 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
132 and substituted and unsubstituted heterocyclyl groups;

133 R^{17} is selected from the group consisting of H, substituted and
134 unsubstituted alkyl groups, substituted and unsubstituted aryl groups,
135 substituted and unsubstituted heterocyclyl groups, OH, substituted
136 and unsubstituted alkoxy groups, substituted and unsubstituted
137 aryloxy groups, $-NH_2$, $-C(=O)H$, $-C(=O)$ -alkyl groups, $-C(=O)$ -aryl
138 groups, $-C(=O)NH_2$, $-C(=O)NH(alkyl)$ groups, $-C(=O)NH(aryl)$
139 groups, $-C(=O)N(alkyl)_2$ groups, $-C(=O)N(aryl)_2$ groups,
140 $-C(=O)N(alkyl)(aryl)$ groups, $-C(=O)O$ -alkyl groups,
141 $-C(=O)O$ -aryl groups, substituted and unsubstituted aminoalkyl
142 groups, substituted and unsubstituted alkylaminoalkyl groups,
143 substituted and unsubstituted dialkylaminoalkyl groups, substituted
144 and unsubstituted arylaminoalkyl groups, substituted and
145 unsubstituted diarylaminoalkyl groups, substituted and unsubstituted
146 (aryl)(alkyl)aminoalkyl groups, substituted and unsubstituted
147 heterocyclylalkyl groups, $-C(=O)$ -heterocyclyl groups,
148 $-C(=O)$ -Oheterocyclyl groups, $-C(=O)NH(heterocyclyl)$ groups,
149 $-C(=O)$ -N(heterocyclyl) $_2$ groups, $-C(=O)$ -N(alkyl)(heterocyclyl)
150 groups, $-C(=O)$ -N(aryl)(heterocyclyl) groups, substituted and
151 unsubstituted heterocyclylaminoalkyl groups, substituted and
152 unsubstituted hydroxyalkyl groups, substituted and unsubstituted
153 alkoxyalkyl groups, substituted and unsubstituted aryloxyalkyl
154 groups, and substituted and unsubstituted heterocycloxyalkyl
155 groups;

156 R^{16} and R^{17} may join together to form a 5 to 7 membered saturated or
157 unsaturated, substituted or unsubstituted N-containing ring; and

158 R¹⁸, R²⁰, and R²¹ may be the same or different and are independently
159 selected from the group consisting of H, -NH₂, -NH(alkyl) groups,
160 -NH(aryl) groups, -N(alkyl)₂ groups, -N(aryl)₂ groups,
161 -N(alkyl)(aryl) groups, substituted and unsubstituted alkyl groups,
162 substituted and unsubstituted aryl groups, -OH, substituted and
163 unsubstituted alkoxy groups, substituted and unsubstituted aryloxy
164 groups, substituted and unsubstituted heterocyclyl groups, -NHOH,
165 -N(alkyl)OH groups, -N(aryl)OH groups, -N(alkyl)O-alkyl groups,
166 -N(aryl)O-alkyl groups, -N(alkyl)O-aryl groups, and -N(aryl)O-aryl
167 groups.

1 30. The compound according to claim 29, wherein Y is selected
2 from the group consisting of H, -OH, -OR¹⁰ groups, and -NR¹²R¹³ groups.

1 31. The compound according to claim 29, at least two of X¹, X²,
2 X³, and X⁴ are C and the corresponding substituents R⁵, R⁶, R⁷, and R⁸ are
3 hydrogen, and at least one of X¹, X², X³, and X⁴ is N.

1 32. The compound according to claim 29, wherein R⁶ or R⁷ is an
2 alkyl group.

1 33. The compound according to claim 29, wherein R⁶ or R⁷ is an
2 -OR¹⁵ group and R¹⁵ is an alkyl, aryl, heterocyclyl, or heterocyclylalkyl group.

1 34. The compound according to claim 29, wherein R¹ is selected
2 from the group consisting of H, substituted and unsubstituted alkoxy groups,
3 substituted and unsubstituted heterocyclylalkoxy groups, substituted and
4 unsubstituted heterocycliloxy groups, and substituted and unsubstituted heterocyclyl
5 groups.

1 35. The compound according to claim 29, wherein R^2 is selected
2 from the group consisting of H, F, Cl, $-NO_2$, substituted and unsubstituted
3 heterocyclyl groups, and substituted and unsubstituted heterocyclalkoxy groups.

1 36. A pharmaceutical formulation, comprising the compound
2 according to any of claims 1, 8, 15, 22, or 29 in combination with a
3 pharmaceutically acceptable carrier.

1 37. A method of treating a patient in need of an inhibitor of
2 vascular endothelial growth factor receptor tyrosine kinase, comprising
3 administering an effective amount of the pharmaceutical formulation according to
4 claim 36 to a patient in need thereof.